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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Klaus Saitmacher

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CLARIANT CORPORATION
INTELLECTUAL PROPERTY DEPARTMENT
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EXAMINER

MANOHAR, MANU M

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/560,091	Applicant(s) SAITMACHER ET AL.	
	Examiner MANU M. MANOHAR	Art Unit 1617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7,8 and 14-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7,8 and 14-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of the Application

This Office Action is in response to applicant's arguments filed on January 09, 2009. Claims 7, 8 and 14 - 17 are pending. Claims 1-6 and 9-13 are cancelled. Thus **Claims 7, 8 and 14 -17 are examined herein.**

The applicant arguments over the rejection of the original claims 7, 8, and 14 - 17 over the 35 USC § 103 of the previous office actions as being unpatentable over Hitoshi et al, Japan Patent Application, JP2000226545A in view of Vincent et al , US 6,556,470 have been fully considered and found not to be persuasive and the rejections of the previous office actions are maintained and set forth below for applicant's attention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 8, 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hitoshi , Japan Patent Application, JP2000226545A (Listed in International Search Report) in view of Vincent et al , US 6,556,470.

The instant invention relates to the use of an antimicrobially effective amount of a mixture from 5-chloro-2-methyl-4-isothiazolin-3-one, 2-methyl-4-isothiazolin-3-one and

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2-bromo-2-nitropropane-1,3-diol as a biocide in aqueous colorant preparations. The instant claims are drawn to antimicrobial mixture of 5-chloro-2-methyl-4-isothiazolin-3-one, 2-methyl-4-isothiazolin-3-one and 2-bromo-2-nitropropane-1,3-diol in aqueous colorant preparations for color filters, electronic inks and electronic paper.

Hitoshi teaches the use of antimicrobials, 5-chloro-2-methyl-4-isothiazolin-3-one, 2-methyl-4-isothiazolin-3-one and 2-bromo-2-nitropropane-1,3-diol (page 4 of translated document-claim 2) at various concentration including corresponding to 0.01% [(step dilution of 0.025 microgram/ml) (Page 21 paragraph 0063)]. Hitoshi also teaches the use of heavy metal complex colorant such as reactive dyes, direct dyes, acid dyes, disperse dyes and pigments, [(Page 13 paragraph 0032, page 16 paragraph 0047) (specification state these dyes are heavy metal complex colorant page 3 line 22 and 23)], and it teaches the concentration of colorant is 5% (Page 27- Table 7-9 statement). In addition it teaches the use of heavy metals in the composition (page 12 paragraph 0026) and the concentration of 0.005-0.5% (from 50ppm) metals along with a main ingredient (page 12 paragraph 0028) and the composition uses the deionized water (page 12 paragraph 0029). Although the reference do not specifically teaches the water content is 10-90% it would be obvious to one of the ordinary skill in the art to optimize with various amount of water. Moreover the reference teaches the antibiotic compounds are upto 5% by weight (page 8 paragraph [0014]) in the ink of inkjet containing water (page 12 paragraph [0029] and hence indirectly teaches that water component can be in between 10-90%. Examiner presumed a fibrous composition as recited in claim 15 is the material on which the colorant preparation is used. Hitoshi

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teaches the use of several materials for the composition including a synthetic material, glossy papers (page 21- 2nd paragraph). Hitoshi teaches the preparation of jet ink (recording fluid) in their invention (Page 1-Title, Page 3-abstract, page 4-claim 4).

Hitoshi do not specifically teach the aqueous colorant preparation with only three anti-microbials 5-chloro-2-methyl-4-isothiazolin-3-one, 2-methyl-4-isothiazolin-3-one and 2-bromo-2-nitropropane-1,3-diol in aqueous colorant preparations however one of the ordinary skill in the art would easily envisioned the combination of these three anti-microbials in the colorant preparation.

Hiroshi does not specifically teach the use of electronic inks, electronic papers and color filters.

Vincent et al teaches the use of colorant on multitudinous types of writable medium such as paper (Abstract) and also teaches electronic ink, electronic paper with ink using liquid coating methodology (Column 4 line 1-5 and line 15-18). Further Vincent et al teaches the use of various filtering methodology (color filter) for different colors (column 4- line 8 – 14).

The references do not specifically teach the combination of three antimicrobial agents in aqueous colorant preparations. However in general the references teach about nine ingredients with antibiotic property and combination of these ingredients in the colorant preparation. Hence it would have been obvious to one of the ordinary skill in the art to optimize the effect of the composition by the routine procedure with known ingredients and concentrations for the same purpose as claimed in the instant invention.

Generally, mere optimization of ranges will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. "When the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimal or workable ranges by routine experimentation. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955); "The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages." *In re Peterson*, 315 F. 3d at 1330, 65 USPQ 2d at 1382; It has been held that it is within the skills in the art to select optimal parameters, such as amounts of ingredients, in a composition in order to achieve a beneficial effect. *In re Boesch*, 205 USPQ 215 (CCPA 1980) MPEP 2114.04.

Therefore it would have been *prima facie* obvious to a person of ordinary skill in the art at the time of the instant invention to prepare the colorant preparation with three antimicrobials, 5-chloro-2-methyl-4-isothiazolin-3-one, 2-methyl-4-isothiazolin-3-one and 2-bromo-2-nitropropane-1,3-diol from the ingredients taught by Hiroshi et al for electronic ink, electronic paper as taught by Vincent et al.

One of the ordinary skills in the art would be motivated to prepare the colorant preparation with three antimicrobials, 5-chloro-2-methyl-4-isothiazolin-3-one, 2-methyl-4-isothiazolin-3-one and 2-bromo-2-nitropropane-1,3-diol from the ingredients taught by Hiroshi et al for electronic ink, electronic paper as taught by Vincent et al because: 1) Hitoshi et al teaches the colorant preparation with ingredients having antimicrobial property 2) Vincent et al teaches the use of colorant on writable medium and

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electronic ink, electronic paper. Moreover the prior arts disclose the composition for the same purpose as colorant solution, ink, to use on writable medium. Therefore, one of ordinary skill in the art would have had a reasonable expectation of success in preparing the colorant preparation with three antimicrobials 5-chloro-2-methyl-4-isothiazolin-3-one, 2-methyl-4-isothiazolin-3-one and 2-bromo-2-nitropropane-1,3-diol from the ingredients taught by Hiroshi et al for electronic ink, electronic paper as taught by Vincent et al.

Response to Arguments

Applicant's arguments against the 35 USC 103 rejections of the original claims 7, 8 and 14 - 17 have been fully considered but found not persuasive.

Applicants take the position that the mixture of three antimicrobial agents delineated in claims 7 and 8 for an aqueous colorant preparation are not functionally equivalent of those disclosed in the prior art, Hitoshi et al. Applicants state that it is made clear in specification that the particular mixture of antimicrobial is superior to any mixture found in the prior art because the mixture does not form insoluble complexes, precipitate and avoid clogging in the nozzles in ink jet print.

The invention of the prior art Hiroshi et al is also about the ink for inkjet (title) as the applicant claimed – aqueous colorant preparation for ink jet print. The cited art specifically discloses that the invention is about the ink for inkjet which will not cause clogging in nozzle etc., of recording head and it further state that ink contains antibiotics which inhibit the growth of bacterium and mold (abstract). The applicants

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also claim that mixture of compounds used in the colorant preparation has antimicrobial properties. The prior art further discloses the group of less than nine compounds with same functional properties, antimicrobial properties, for the same use as a colorant solution used for ink jet (page 4 claim 2)

Applicants argue that one of ordinary skill have no motivation to mix the three particular antimicrobials recited in the claims to arrive at the instant invention.

Applicants further argue that Office has identified the antimicrobial present in the claims and has merely plucked such compounds from a generic listing of antimicrobials in the claims to find the instant invention obvious.

Examiner would like to point out that Hitoshi et al specifically disclose about nine compounds with antibiotic property (page 4 claim 2) to use in the ink of ink jet and also discloses the use of compounds to avoid clogging in the nozzles of the ink jet (page 3 abstract). Applicants also claimed mixture of three compounds listed in the prior art possessing the same functional property, antimicrobial property, for the same purposes, to use as a colorant solution in ink jet to avoid clogging and precipitation. This is the optimization of the composition under routine experimentation. One of the ordinary skill would be motivated to develop an ink with better quality with the new combination of the compounds listed in the prior art. One of the ordinary skill in the art would readily envisioned the different combinations of the ingredients disclosed in the Hitoshi et al and would readily recognize the combination of the three ingredients as claimed in the instant invention from the nine compounds disclosed in the prior art. Modification of

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composition or combination of compositions are obvious to one of the ordinary skill in the art and it is a routine experimentation under optimization.

Moreover it is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... The idea of combining them flows logically from their having been individually taught in the prior art." *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980).

Conclusions

Claims 7, 8, 14 - 17 are stand rejected.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to MANU MANOHAR whose telephone number is (571)270-5752. The examiner can normally be reached on Mon - Thu 9.00AM to 4.00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan can be reached on 571-272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MANU MANOHAR
Examiner
Art Unit 1617

MM

/YONG S. CHONG/
Primary Examiner, Art Unit 1617